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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.      | CONFIRMATION NO.       |
|---|-------------|----------------------|--------------------------|------------------------|
| 10/602,395  | 06/23/2003  | Charles L. Guy       | UF-326XC1                | 1698                   |
| 23557 7590 03/21/2007<br>SALIWANCHIK LLOYD & SALIWANCHIK<br>A PROFESSIONAL ASSOCIATION<br>PO BOX 142950<br>GAINESVILLE, FL 32614-2950 |             |                      | EXAMINER<br>KUMAR, VINOD |                        |
|   |             |                      | ART UNIT<br>1638         | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>03/21/2007  | DELIVERY MODE<br>PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action  
Before the Filing of an Appeal Brief**

|                               |                            |  |
|-------------------------------|----------------------------|--|
| Application No.<br>10/602,395 | Applicant(s)<br>GUY ET AL. |  |
| Examiner<br>Vinod Kūmar       | Art Unit<br>1638           |  |

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 27 February 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 4 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because:
- (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
  - (b) ☐ They raise the issue of new matter (see NOTE below);
  - (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
  - (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).


4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment.(PTOL-324).  
5. ☒ Applicant's reply has overcome the following rejection(s): 35 USC 112, 1<sup>st</sup> and 2<sup>nd</sup> paragraphs.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: None.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: 1-4, 8-11, 15-23, 27-32, 34-39 and 41.  
Claim(s) withdrawn from consideration: None.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_  
13. ☐ Other: \_\_\_\_\_

  
PHUONG T. BUI  
PRIMARY EXAMINER  
3/8/07

Claims 1-2, 4, 8-11, 15-21, 23, 27-30, 34-39 and 41 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Gausing et al. (United States Patent No. 5,498,832, issued March 12, 1996), in view of Seki et al. (The Plant Cell, 13: 61-72, 2001), for the reasons of record stated in Office actions mailed on March 13, 2006, and October 31, 2006. Applicants traverse the rejection in the paper filed on February 27, 2007.

Applicants argue that Gausing et al. patent, does not teach or suggest enhancement of stress tolerance in plant, nor the mechanism by which alpha-amylase could enhance stress tolerance in a plant. Applicants further argue that at the time of present invention, beta-amylase production of maltose was not believed to be involved in starch metabolism in plant photosynthetic organs and tolerance to environmental stress conditions by the ordinary skilled artisan (response, last paragraph bridging the pages 8 and 9). Furthermore, Applicants assert that Seki et al. does list beta-amylase whose expression changes during exposure of the organism to a stress condition. However, Applicants argue that this change in gene expression is not equivalent to or reasonably predictive of that gene having a direct role in providing the organism with increased tolerance to the stress condition. Applicants further argue that Figure 4 in Seki et al. reference does not indicate or suggest that beta-amylase gene expression was controlled by DREB1A, and thus one of ordinary skill in the art would have considered beta-amylase to be unimportant and uninteresting in the pursuit of cold tolerance. Applicants further argue that one finds neither the suggestion nor the reasonable expectation of success in the cited references (response, page 9, 2nd paragraph through page 10).

Applicant's arguments were fully considered but were not found persuasive. It is maintained that Gausing et al. clearly teach a method of making a transgenic plant comprising expression of an amylase that was well known in the art at the time claimed invention was made to catalyzes the synthesis of maltose. Furthermore, it is maintained that Seki et al. clearly teach that beta-amylase expression is up-regulated by at least 4.4 times in response to an environmental stress, such as cold (see table 2, under FL5-90 gene). Furthermore, Table 2 (under FL5-90 gene) of Seki et al. also teach that transgenic plants expressing DREB1A transcript also resulted in at least 1.2 fold increase in FL5-90 gene (beta-amylase) expression. Furthermore, Figure 4, clearly lists DREBA1 and FL5-90 (beta-amylase) together as cold-specific inducible genes. It is further emphasized that Seki et al. do not teach or suggest that beta-amylase and DREB1A gene expression are not under a common stress regulatory control. Nevertheless, it must also be emphasized that claims do not recite a mechanism by which b-amylase confers stress tolerance in a plant. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In the instant case, Seki et al.'s teaching that beta-amylase expression is significantly up-regulated in response to an environmental stress condition, such as cold, would have provided more than sufficient motivation to one of ordinary skill in the art to arrive at the instantly claimed invention with reasonable expectation of success.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Gausing et al., and Seki et al. teachings when combined together with what was known about amylases at the time claimed invention was made, it would have been *prima facie* obvious as a whole to one of ordinary skill in the art to arrive at the claimed invention.

Accordingly, the rejection is maintained.

Claims 1-4, 8-13, 15-23, 27-32, 34-39 and 41 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Gausing et al. (United States Patent No. 5,498,832, Issued March 12, 1996) in view of Seki et al. (The Plant Cell, 13: 61-72, 2001) and Grover et al. (Current Science, 80:206-216, January 2001) for the reasons of record stated in Office actions mailed on March 13, 2006, and October 31, 2006. Applicants traverse the rejection in the paper filed on February 27, 2007.

Applicants addressed this rejection with the 103 rejection above. Applicant's arguments are not found persuasive for the reasons discussed above.

Accordingly, the rejection is maintained.

It is noted that claims 3 and 4 are improperly dependent. Claims 3 and 4 should depend from claim 2. Necessary corrections are suggested.

Furthermore, in claim 41, change "a plant as defined in" to --the plant of --.